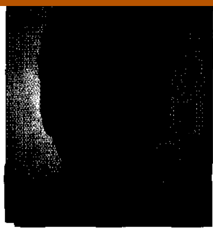

Editorial

Mobile markets & moving targets

The compound semiconductor industry has been experiencing unprecedented growth in demand, particularly for GaAs through the proliferation of mobile phones. However, such growth can bring problems as supply chains are stretched, complementary technologies get out of sync and end-product development struggles to keep pace with consumer demand.

In 1999 cell-phone handset sales of 285m far exceeded the forecast 190m (see page 4). But with the stakes so high, major manufacturers and even whole economies can be hostage to industry-wide glitches due to global and technical interdependence. Despite record profits last quarter, number-1 handset maker Nokia (which alone makes up 65% of the value of Finland's stock market) suffered a record drop in share price. This followed warnings of reduced profits in subsequent quarters due to delays in introducing new models (a problem that has previously led Ericsson to make a loss last quarter, slipping to number 3 behind Motorola, which itself is barely making a profit on handsets).

As well as product life-cycles outpacing development, demand is also causing shortages of SRAM flash memory chips in a silicon industry still depleted after emergency capacity cut-backs during the last downturn. In the past the compound industry has been relatively insulated from the boom-and-bust silicon cycle. However, with the shift from PCs to telecoms, silicon functionality is increasingly complementing the performance of compounds. Despite increasing demand, cell-phone makers have had to cut production in accord with available SRAM supply. Most are now forecasting 425m handset sales this year rather than 500m.

Forecasts for when the number of subscribers will reach 1bn also vary widely from 2002 to 2005. In addition, after the UK's auction for 3G mobile phone licenses raised Euro36.9bn, Germany's raised over Euro50bn, leading to the prospect of increased service charges affecting the handset market. Such license fees are only being paid in the hope that Internet-ready 3G phones will generate increased use. The shortfall in sales this year is being blamed partly on consumers waiting for the improved performance of 3G, but high costs may thwart this.

GaAs RFIC manufacturers are rapidly adding capacity from a low base, but – whenever the 1bn *subscribers* materialise – demand from individual cell-phone *manufacturers* will not necessarily be in sync, since this depends not only on manufacturing but *designing* increasingly complex systems which rely on interdependent technologies. It can therefore be expected that the trend will continue for GaAs IC companies to diversify their customer base by opening regional design offices and targeting the handset manufacturers more closely, especially as Internet access proliferates.

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